Request for industry feedback on the requirements for a new AE(P)-9 radiation belt model

Description: The radiation belts and plasma in the Earth's magnetosphere pose hazards to satellite systems which restrict design and orbit options with a resultant impact on mission performance and cost. For decades the standard space environment specification used by the engineering community has been provided by the NASA AE-8 and AP-8 trapped radiation belt models. There are well-known limitations on their validity, however, and a consensus has been growing that a new standard trapped radiation and plasma model is needed for modern spacecraft design and mission planning purposes. The National Reconnaissance Office (NRO), Air Force Research Laboratory (AFRL), the Aerospace Corporation and Los Alamos National Laboratory (LANL) have recently embarked on a project to produce the next generation radiation belt model, AP(E)-9. This model upgrade will offer significant improvements in terms of the radiation hazards specified, accuracy and uncertainty quantification, spectral and spatial coverage, and time-correlated probability of occurrence statistics. Preliminary requirements for such a model have been gleaned from participation in DoD-sponsored Space Environment Effects Working Group (SEEWG) and NASA Living With a Star workshops over the last several years. Before finalizing the specifications and architecture for version 1.0 of the AE(P)-9 models the developers are requesting feedback from industry on the requirements as currently understood and the model development plan. To help accomplish this a special session will be held during the Space Weather Workshop, 24-27 April 2007 in Boulder, CO being hosted by the National Oceanic and Atmospheric Administration's Space Environment Center (NOAA/SEC). In this session the current status and plans for the model will be presented, an industry perspective will be given by several speakers, and feedback solicited via an open forum discussion (the exact day and time is yet to be determined). All from industry are invited to attend and provide feedback. If an open forum discussion is not appropriate then one-on-one discussions can be arranged either at the Space Weather Workshop or at another time and location. In addition to the discussion on AE(P)-9, NOAA/SEC will present a summary of current and planned support for real-time space environment situational awareness products, with an opportunity for feedback during the open forum session. If you plan to attend the session, and/or would like to schedule a time for one-on-one discussion with a member of the AE(P)-9 team, or would like to email your comments on model requirements please contact one of the people listed below. For those planning to attend the Space Weather Workshop session a response by 2 April 2007 would be appreciated.

Points of contact: Dr. Clark Groves, NRO, clark.groves@nro.mil, 703-808-2972, Dr. Gregory P. Ginet , AFRL, gregory.ginet@hanscom.af.mil, 781-377-3974; Dr. T. Paul O'Brien, Aerospace Corp., paul.obrien@aero.org, 703-324-8978; and for NOAA/SEC real-time products, Dr . Terry Onsager, NOAA/SEC, terry.onsager@noaa.gov, 303-497-5713.